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A Water And Wastewater Manager's Guide For Staying Financially Healthy

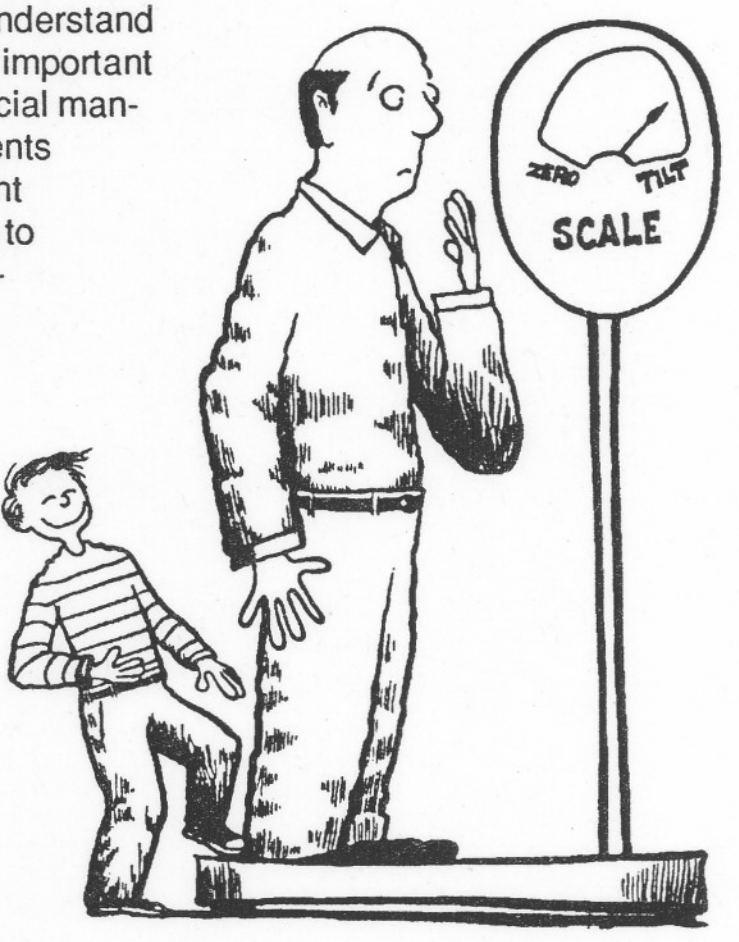
Keys to Financial Health

If you are intimidated by financial management, you aren't alone. A lot of people find financial issues confusing and think they're best left to accountants. You probably already know that you can't do that in a small utility. The utility manager, along with other duties, has to manage the finances.

This booklet is meant to help small water and sewer utility managers understand some of the more important principles of financial management. It presents some management tools you can use to keep your utility financially healthy and running smoothly. Better yet, it won't take much of your time.

Good financial management has two purposes. First, you find out what kind of financial shape your utility is in today. Second, it allows you to lay down a foundation for a strong financial future.

If you only have fifteen minutes a month to spend on financial management, use it to check the operating and coverage ratios. They tell you whether revenues are covering all the costs of your utility.



The Operating Ratio

If you check the operating ratio every month and compare it to past values, it will show you the trend of finances for your utility. To calculate the ratio, divide the total revenues by the total operating expenses.

Sounds simple, but you will need to dig through the accounting records to find the numbers.

Some utilities combine the account books for the water and wastewater utilities. If that's your case, you will need to break the records down into separate water and wastewater accounts.

Once you have found the accounting reports and identified the total revenues and operating costs, you can use this worksheet to calculate the operating ratio.

Revenues for a financially self-sufficient utility are mainly obtained from user service charges, but they often include other charges for special services. Interest earnings are counted as revenue.

Operating expenses are the costs associated with providing and maintaining the utility's services. Examples are wages and benefits for employees, administrative overhead, chemicals and electricity for treatment, parts, tools, money spent or put in reserve for routine replacement of equipment, and the principal and interest on loans or bonds.

Operating expenses do not include the purchase costs of new capital facilities (like more treatment capacity or water and sewer lines). They also <u>exclude depreciation</u>. Depreciation is an estimate (usually for tax and

OPERATING RATIO WORKSHEET
(Year to Date)

TOTAL REVENUE

User service charges	$_____
Hook up / Impact Fees	_____
Taxes / Assessments	_____
Interest Earnings	_____
Other Revenue	_____
Total Revenue	$_____

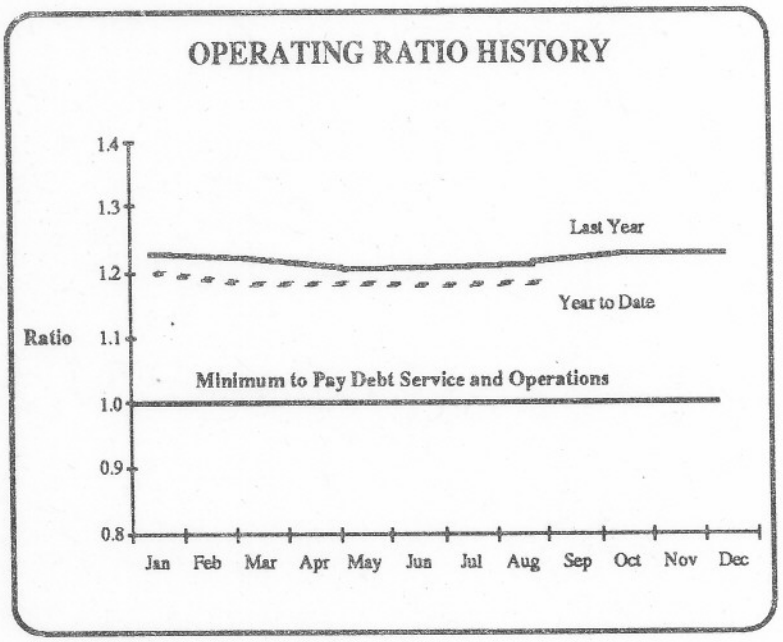
TOTAL OPERATING EXPENSES

Administration	$_____
Wages	_____
Benefits	_____
Electricity	_____
Chemicals	_____
Fuel & Utilities	_____
Parts	_____
Equipment Replacement Fund	_____
Principal and interest payments	_____
Other	_____
Total Operating Expenses	$_____

OPERATING RATIO

Total Revenue	$_____
divided by	
Total Operating Expenses	$_____
equals	
Operating Ratio	_____

accounting purposes) of how much value the utility's plant and equipment lose in a given time period. Since municipal utility operations are generally not required to provide money for depreciation, it is not an operating expense.



It's best to calculate the operating ratio on a year-to-date basis since revenues and expenses usually vary greatly from month to month.

The minimum operating ratio for a financially healthy utility will depend on its debt situation. An operating ratio of 1.00 is the bare minimum for a self-supporting utility. If a utility has any outstanding debt, the operating ratio will need to be greater than 1.00. How much greater depends on the debt service coverage requirements.

You should pay special attention to the trend in the operating ratio. It can give you an early warning of trouble so that you can eliminate financial shortfalls before they occur. All you need is a simple chart and the accounting reports for this year and last to keep track of the trend.

The accompanying chart shows an example of how you can identify trends in the operating ratio. This chart really answers two questions: What's the short-term trend this year? How does this year compare to last year?

In a financially healthy utility, the trend in the operating ratio should be steady or upward. If it's over the minimum value required to pay all the bills and holding steady, the utility is probably financially healthy. If the ratio is below the minimum value or falling, you need to do something to get it back in shape. This is an example of using the trend in the operating ratio to avoid problems and stay financially healthy.

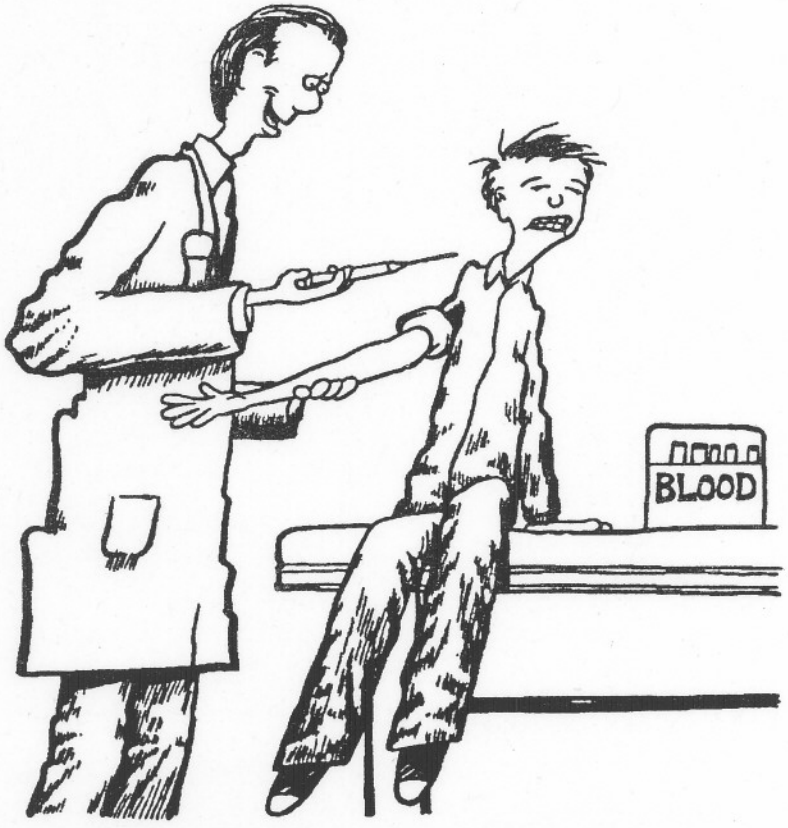
The operating ratio is a good indicator of where your financial condition is headed. Think of it as the pulse of your utility.

The Coverage Ratio

The coverage ratio measures whether your utility has enough revenue to pay the principal and interest on its loans and bonds, with enough money left over to guard against unexpected problems. Bond buyers look to the coverage ratio as a sign of good financial management. The ratio should be checked at the end of every fiscal year.

To calculate the coverage ratio, add all revenues received during the year, from whatever source. Then add together all the non-debt operating expenses for the year. These are the same categories of costs we used in the operating ratio minus the principal and interest payments. Subtract the non-debt operating expenses from the total revenue. Then divide the result by the debt service for the year. Debt service is the total amount of interest and principal that has to be paid on your loans and bonds during the year.

Generally, the terms of a bond or loan require a coverage ratio of



1.25 (125 percent) or higher. If your ratio drops below the required value, an increase in user service charges is needed, since the utility can't guarantee that it can both meet unexpected costs and still pay off its loans and bonds on schedule.

COVERAGE RATIO WORKSHEET

Total Revenue	$_____
minus	
Non-Debt Expenses	$_____
equals	
Revenue Available for Debt Service	$_____
divided by	
Debt Service Expenses	$_____
equals	
Coverage Ratio	_____

It's a good idea to compare the coverage ratio to earlier years' ratios. A drop indicates trouble ahead, meaning again that it's time to consider a rate increase.

Other Measures of Financial Health

Even though the operating and coverage ratios are the most important measures of financial health, it's a good idea to look at several other indicators as well.

Budget vs. Actual

Budget vs. actual comparisons should be made at least every three months, and preferably monthly. A utility that is not staying on budget is often one that is heading for financial trouble.

Most utility budgets are prepared once a year. As with the accounting records already discussed, separate budgets are needed for the water and sewer utilities. Each utility should have both a revenue budget and an expense budget. A budget-actual comparison looks at each budget individually and then compares the two.

A revenue budget lists the amount of money the utility expects to receive from each revenue source. User service charges are probably the biggest, but there may be other important sources of revenue, too.

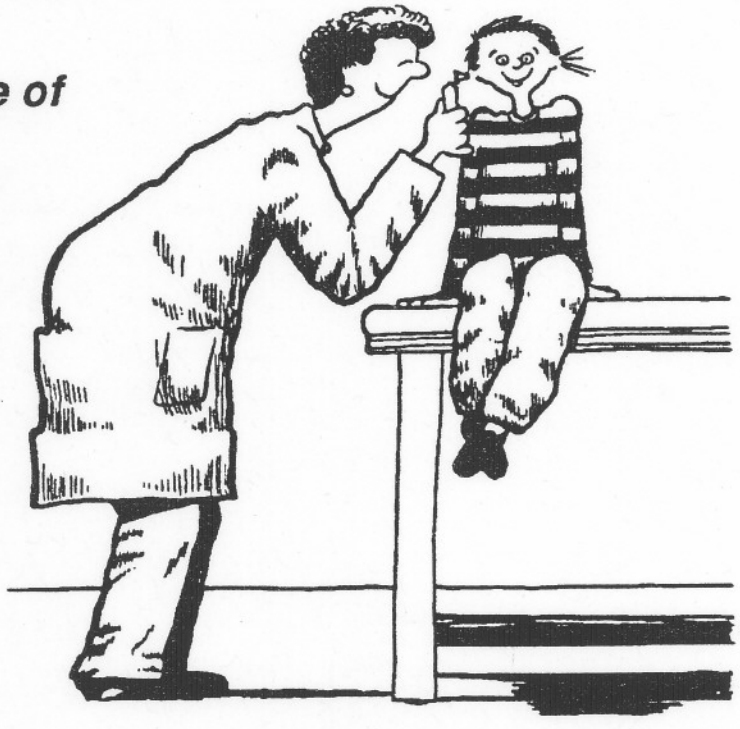
To compare budget to actual revenues, make a worksheet like the one shown listing the major revenue sources and the amount of revenue budgeted for each

Revenue Budget vs. Actual				
% OF YEAR COMPLETED TO DATE: _____	$ BUDGET TOTAL	$ RECEIVED CURRENT YEAR TO DATE	% OF BUDGET RECEIVED CURRENT YEAR TO DATE	% OF BUDGET RECEIVED LAST YEAR TO DATE
USER CHARGES				
TAXES / ASSESSMENTS				
HOOKUP FEES				
IMPACT FEES				
INTEREST				
OTHER REVENUE				
TOTAL REVENUE				

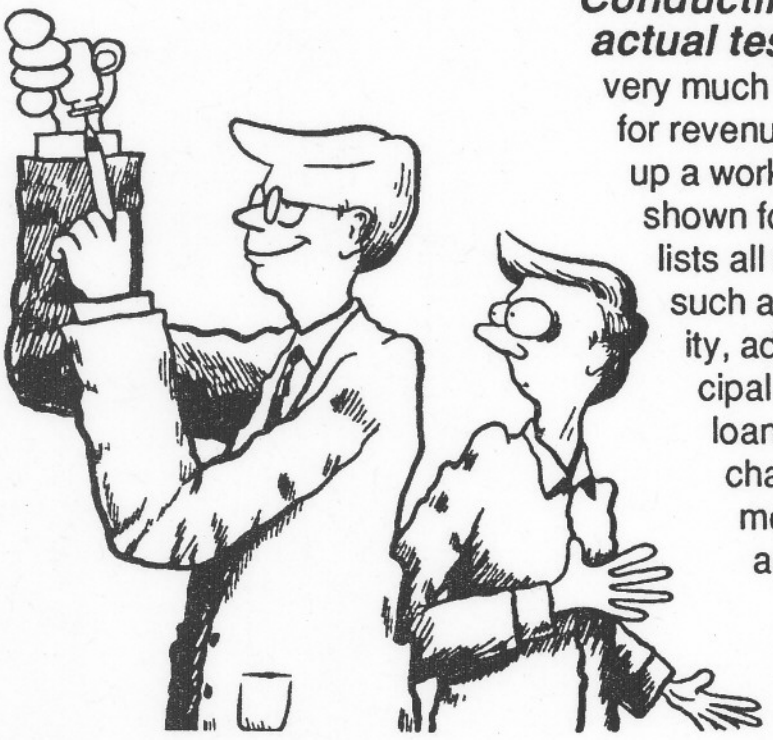
source. Then enter the actual year-to-date amount of revenue received. You can then calculate the percentage of budgeted revenues actually collected year-to-date. These percentages should be compared to the percentage of the year completed to date.

If the percentage of total budgeted revenues received is equal to or greater than the percentage of the year completed to date, your utility passes the budget-actual test for revenue. The test predicts that you will receive the full amount of budgeted revenues by the end of the year.

What if the percentage of total budgeted revenues received is less than the percentage of the year completed to date? There are some further



tests you can do. First, look at the individual revenue items and find out which ones are coming in the slowest. Then try to figure out whether it's only a problem of timing (for example, user service charges are billed quarterly and so things aren't as bad as they look after two months into the billing cycle).



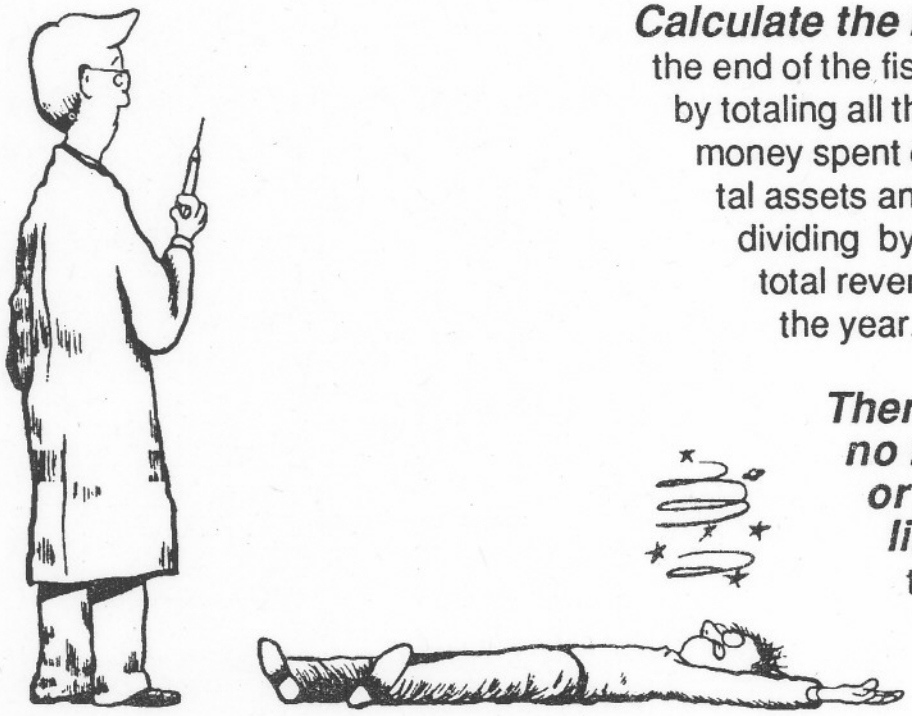
If timing does not explain the variance, then you will have to investigate that revenue source more closely. Try to find out why the revenue is coming in under the budget. Does it seem likely that the trend will continue for the rest of the year? What actions can you take (such as raising other revenues) to get the total budget back in balance by the end of the year?

It is also a good idea to compare the budget-actual performance to the percentage of revenue received at the same time the previous year. If revenue is coming in more slowly this year than last, it could mean that you will end up with a revenue shortfall at the end of the year. Again, you need to investigate the reasons and take actions to correct the problem.

Conducting a budget-actual test for expenses is very much like doing the one for revenues. You can set up a worksheet like the one shown for revenues that lists all the expenses, such as: wages, electricity, administrative, principal and interest on loans and bonds, purchases of replacement equipment, and so on.

If the percentage of the expense budget spent to date is equal to or less than the percentage of the year completed to date, then the utility passes the budget-actual test for expenses. As with revenues, you should compare the percentage spent with the percentage from the same time last year and investigate individual items that seem headed to go over the budget.

Revenues and expenses work together to define the financial health of the utility, so you should look at both budgets



Calculate the ratio at the end of the fiscal year by totaling all the money spent on capital assets and dividing by the total revenues for the year.

There are no rules or guidelines for the capital investment ratio.

together when doing the budget-actual comparison. If actual revenues are higher than actual expenditures, your utility passes this test.

It can be very low for a utility with mostly new facilities. Since every utility is different, the only way you can judge the capital investment ratio is by comparing it to earlier years.

Capital Investment Ratio

The capital investment ratio is a measure of how much of its resources the utility is putting into improving and replacing capital assets. Capital items are those that have a long life and a substantial cost. Examples include buildings, water and sewer lines, treatment plants, outfalls, and so on.

The accompanying worksheet shows how to calculate the capital investment ratio.

CAPITAL INVESTMENT RATIO WORKSHEET

Total Capital Outlays $_____

divided by

Total Revenue $_____

equals

Capital Investment Ratio _____

A Systems Checkup

So far this booklet has concentrated on measures for determining your utility's financial health. The rest of the booklet suggests ways you can improve its financial condition.

Financial reporting, purchasing, and user service charges are your utility's most important financial management systems. For each of these systems, the booklet gives a checklist of what a good system looks like. The idea is for you to examine your utility's current systems and start thinking about how you can improve them.

FINANCIAL REPORTING CHECKLIST	IS THIS DONE AT YOUR UTILITY? YES	NO	UNSURE
- Water and wastewater operations are accounted for in separate enterprise funds:			
- Each utility uses accrual accounting methods.			
- Each utility receives monthly reports of revenue and expenses.			
- Reports show both budget and actual figures.			
- Reports arrive by the 10th day of the following month.			
- The utility keeps its financial reports for at least four years.			

Financial Reporting

Financial reporting is the system that makes financial management possible. Financial reports tell the utility manager how things are working financially. Without them, you have no idea how much it costs to run the utility, how much revenue is coming in, or how you're doing compared to the budget.

If financial reports are accurate and timely, the manager can take control over the financial health of the utility. This checklist presents some of the qualities of a good financial reporting system. If your system falls short, try working with the finance office (or bookkeeper in a small utility) to improve it.

Purchasing

Every utility has a purchasing system, but many are informal and lack organization. The purpose of a purchasing system is to make sure that the utility can get its goods and services when it needs them and at the lowest price.

PURCHASING CHECKLIST	IS THIS DONE AT YOUR UTILITY? YES	NO	UNSURE
- Purchasing is centralized.			
- Major purchases are based on specifications that define requirements.			
- Standard quote/bid forms are used.			
- No purchases are made without a purchase order.			
- Exceptions are specified for emergency purchases.			
- Goods are inspected immediately for quality and damage.			
- Stock quantities are specified for all inventory items .			

You can tell if your purchasing system is not working well because the utility runs out of parts or supplies. Use the above purchasing list to check the system's condition. Improvements to this system can cut costs and improve the quality of water and wastewater services.

User Service Charges

The user service charge system is crucial to any self-supporting utility. It has two parts. One part sets the user charge rates and the other part collects the money.

This booklet has stressed the importance of maintaining the utility on a financially self-supporting basis. Frequently, the solution to many of the financial ills in a utility can be as easy as maintaining adequate user service charges.

Many utilities wait too long before raising user service charges. They fear adverse customer reaction. A good public education program, explaining the costs and benefits, can eliminate the negative reaction. Customers understand that they will eventually end up paying one way or another for the services they receive. Gradual increases are easier to explain and they show customers that the utility is being well managed.

It's a good idea to get help from an engineer or financial consultant when setting user

USER SERVICE CHARGES CHECKLIST	IS THIS DONE AT YOUR UTILITY? YES	NO	UNSURE
- All costs are identified.			
- Costs are allocated proportionately based on use.			
- Flow characteristics are known for each customer class.			
- Each customer's use is known or fairly estimated.			
- Customers are billed proportionally to use.			
- Billing cycle provides timely revenues.			
- Established procedures assure collection of delinquent bills.			

service charges. If that can't be done, you can do it yourself. Either way, the approach is the same.

The accompanying checklist gives a basic outline

How user service charges are set depends on the specific nature of each utility. For a small utility, the process can be as simple as dividing the total budget by the metered flow (or equivalent dwelling units).

The key *to a* good billing and collection system is to make sure that the money from user service charges is collected very soon after providing the service.

to follow in setting user service charges, billing customers and collecting the money.

Long-term Financial Improvements

This section offers some additional steps you can take to build a stronger financial system. The improvements discussed here will require the cooperation of other people in your utility. They are different from the financial systems discussed above because they involve ambitious long-term efforts.

Budgeting

Almost every size utility can benefit from better budgeting. Good budgeting begins with an understanding of the demands on the utility and the way the utility meets those demands. An effective budget translates the utility's physical operations into a strong financial plan.

Capital Planning

A capital plan is a blueprint for future improvements. The idea of capital planning is to figure out the needed improvements, set timetables, and develop a financing plan to fund the improvements. The result of capital planning is called the capital improvement program.

Financial Management

Financial management can seem like a lot of trouble, especially in the first year or two as you build better systems. However, you will find that your efforts pay off, and usually very quickly. You, your staff, and your governing board will develop a better understanding of how finances and operations work together to provide better water and wastewater services.

Once you begin monitoring the financial health of your utility and making improvements in your financial systems, you will achieve greater control over your utility's operations and its financial future.

Where to Get Help

This booklet can't solve all your financial problems. It only presents some basic financial concepts and gives you some suggestions for possible improvements.

You do not have to solve all your utility's financial problems alone. You can turn to organizations and professionals who have faced similar problems and solved them.

One group that was set up just to help managers of small sewer utilities is the US EPA National Small Flows Clearinghouse. It has books and pamphlets on all aspects of small community operations. You can call the clearinghouse toll-free at ***1-800-624-8301*** or write to:

US EPA National Small Flows Clearinghouse
P.O. Box 6064
Morgantown, WV 26506-6064

There are organizations that offer low-cost books, pamphlets, conferences, and courses on local financial issues. Call any of these groups. Ask for a publications catalog and a list of course offerings:

American Public Works Association
(312) 667-2200

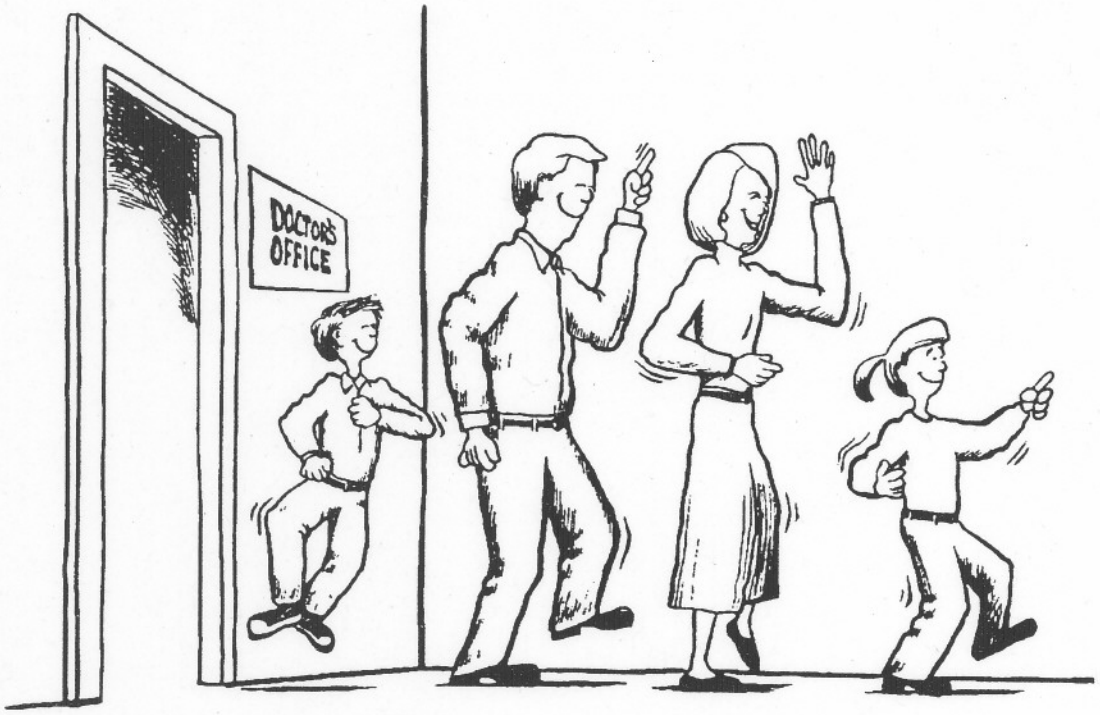
American Water Works Association
(303) 794-7711

Government Finance Officers Association
(312) 977-9700

International City Management Association
(202) 626-4620

Water Pollution Control Federation
(703) 684-2400

Many states and universities have special training courses and onsite assistance programs for solving small communities' financial problems. Give them a call and see how they can help you.



This booklet was prepared by Paul L. Shinn, Steven Turtil, and Benjamin Mays of the Government Finance Research Center of the Government Finance Officers Association and Haig Farmer of the U.S. Environmental Protection Agency.